

REMARKS

Applicants have received the Office Action mailed May 2, 2007. Claims 7 and 22 have been amended, and new claims 24 and 25 have been added. Claims 1-7, 9-12 and 15-25 are pending, of which claims 1, 11, 22, 23 and 24 are independent. Applicants request reconsideration of the pending claims in view of the amendment and the remarks that follow.

Summary of Examiner Interview

Applicants thank the Examiner for the courtesies extended in the telephone interview of July 31, 2007, during which the Examiner and Applicants' representative discussed claims 1, 4, 5, 7 and 9 *vis-à-vis* U.S. Patent Publication No. 2002/0162093 ("Zhou"). In particular, Applicants' position that Zhou does not disclose or suggest various elements of the claims—as described in detail below—was discussed. Also discussed were possible new claims directed to, *inter alia*, requesting additional data from a user interface to associate with a data object, to which multiple data entries have already been associated. The Examiner tentatively agreed that Zhou does not disclose or suggest such requests for addition data.

Claim Rejections—35 U.S.C. § 112

The Office Action rejected claim 22 as being indefinite. Without conceding the propriety of the rejection, Applicants, in order to expedite prosecution, have amended claim 22 in a manner that is believed to overcome the rejection. Accordingly, Applicants request that the § 112 rejection of claim 22 be withdrawn.

Claim Rejections—35 U.S.C. § 102

The Office Action rejected claims 1-7, 9-12 and 15-23 under 35 U.S.C. §102(b) as being anticipated by Zhou. Applicants traverse these rejections.

In order to anticipate a claim, "each element of the claim at issue [must be] found, either expressly described or under the principles of inherency, in a single prior art reference or ... the claimed invention [must have been] previously known or embodied in a single prior art device or

practice." *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 761 (Fed. Cir. 1983). Not every element of the claims at issue is disclosed in the Zhou reference. Accordingly, Applicants request that the rejections under § 102(b) and based on Zhou be withdrawn.

The Zhou reference relates generally to "a system and method for localizing server applications written in one locale for use in one or more other locales." (Zhou, ¶ 0001). More particularly:

[t]he system automatically extracts locale-sensitive content (e.g., language, regional information, slang, cultural aspects, etc.) from the source code and other locale-independent elements (e.g., formatting data). The extracted content can then be translated for use in the other locales. During runtime, requests from different locales can be served locale-sensitive responses by retrieving the source code and dynamically populating it with the appropriate content for the target locale. (Zhou, Abstract)

In rejecting claim 1, the Office action provided the following:

With respect to claim 1, Zhou teaches a computing system comprising: a user interface (102 (I-n)) configured to collect multiple data entries from a corresponding user device (figure 1, abstract, 0021; requests); an object model controller (drawing references 220, 222, and figure 2) configured to associate, at runtime (abstract), the multiple data entries (figure 1; requests) with an object belonging to a model class (paragraphs 0036-0038), and to prevent the object from being modified by another user interface (0102), business logic (drawing reference 204, and paragraphs 0030-0034) configured to process objects belonging to the model class (paragraphs 0036-0038); and an intermediate layer (drawing reference 202 and figure 2) interposed between the user interface (at least drawing references 110, 212 and figures 1-2) and object model controller (drawing references 220, 222, and figure 2), and the business logic (drawing reference 204); wherein the object model controller (drawing references 220, 222, and figure 2) is configured to provide the object with which the multiple data entries are associated to the intermediate layer, and wherein the intermediate layer is configured to rearrange data in the object into a format that is optimized for processing by the business logic and provide the object whose data has been rearranged to the business logic for processing (paragraphs 0031 -0033).

Zhou does not disclose, either expressly or inherently, all elements of claim 1. For example, the "framework 220" and "model dispatcher 222" having a "translator," which the Office Action maps to "an object model controller" in claim 1, is not configured to "associate, at

runtime, [] multiple data entries with an object belonging to a model class” and “provide the object with which the multiple data entries are associated to [an] intermediate layer.”

First, no association of the client requests in Zhou is made to any object belonging to a model class. In fact, Zhou does not appear to describe any objects belonging to a model class to which multiple data entries can be associated. Rather, in ¶¶ 0036-0038, which the Office Action maps to “objects belonging to a model class,” Zhou describes “a domain object model to model *information flow* for the problem domain. The data coordination layer 206 effectively partitions the business logic layer 204 from detailed knowledge of the domain object model as well as any understanding regarding how to obtain data from the external resources.” (Zhou, ¶ 0038). Applicants understand this portion of Zhou to describe modeling “a particular application solution space of the business logic layer 204,” to enable “execution models 230 in the business logic 204 … to make calls to the application data managers for specific information, without having any knowledge of the underlying domain or resources.” (Zhou, ¶ 0039.) The section does not appear to relate at all to objects to which multiple data entries that have been collected by a user interface can be associated.

Second, no “object with which the multiple data entries are associated” is “provide[d] … to the intermediate layer.” Instead, the client requests in Zhou (which the Office Action maps to multiple data entries) appear to be directly handled by the execution environment 202 (which the Office Action maps to the intermediate layer—see Zhou, ¶ 0031), rather than the execution environment handling an object with which the multiple data entries are associated.

As another example of how Zhou does not disclose all elements of claim 1, Zhou does not disclose “an object model controller configured to … prevent the object from being modified by another user interface.” To reject this element, the Office Action cited ¶ 0102. This paragraph is reproduced below.

[0102] For any future updates of the application, developers simply have to re-compile the locale-independent document cores. Any new content is appended to the existing resource bundle, making it is easy to find the new additions and have only those changes translated for other supported locales. In other words, only content that has been modified or added since

the last compilation is translated, significantly reducing the cost and effort. Application development cost can be further reduced by sharing translation resource bundles across multiple applications. (Zhou, ¶ 0102.)

Paragraph 0102 has nothing to do with an object model controller that is configured to prevent an object from being modified by another user interface in the abstract, much less in the context of claim 1 (which, in its current format, recites, *inter alia*, “a user interface configured to collect multiple data entries from a corresponding user device; an object model controller configured to associate, at runtime, the multiple data entries with an object belonging to a model class, and to prevent the object from being modified by another user interface”).

Neither is claim 1 obvious in light of Zhou, as highlighted by the fact that the systems and methods recited in the present claims give rise to significant advantages that are not contemplated by Zhou. In particular, for example, “[t]he intermediate layer may be able to optimize one or more processes in the layer of business logic and enable batch processing of data entered in the user interface.” (Specification filed on November 13, 2003, at page 4, lines 6-7.) “Also, the intermediate layer may improve the efficiency of business logic processing by being able to collect, maintain and optimize the rearrangement of data entries and modifications among various object classes. The intermediate layer may also perform complex formatting and data translation steps that would otherwise have to be implemented and performed in the business logic.” (Specification filed on November 13, 2003, at page 5, lines 13-17.)

Accordingly, for the reasons given above, Applicants respectfully submit that independent claim 1 is patentable over the Zhou reference, and Applicants request that the § 102(b) rejections based on Zhou of independent claim 1 and of the corresponding dependent claims 2-7, 9 and 10 be withdrawn. Independent claims 11, 22 and 23 recite similar language as the language in independent claim 1 and are therefore patentable for at least the same reasons as those presented with reference to claim 1. Accordingly, Applicants request that the § 102(b) rejections based on Zhou of independent claims 11, 22 and 23, and of dependent claims 12 and 15-21, also be withdrawn.

Various dependent claims are patentable for additional reasons. Dependent claims 4, 5, 7 and 9 are specifically addressed below. By specifically discussing certain dependent claims, Applicants make no concessions regarding the other dependent claims.

The Office Action rejected claim 4 as follows:

With respect to claim 4, Zhou teaches the computing system of claim 1 wherein the intermediate layer is further configured to optimize the arrangement of data for the business logic (0031), wherein the rearrangement of data collected by the user interface comprises data collection (paragraph 0076) from the user interface and translating the collected data for the business logic (paragraph 0033).

Contrary to the assertion in the Office Action, Zhou does not disclose an intermediate layer that is “configured to optimize the arrangement of data for the business logic, wherein the rearrangement of data collected by the user interface comprises data collection from the user interface ...” To find “data collection” in Zhou, the Office Action cited paragraph 0076, which is reproduced below:

[0076] The content analyzer 410 outputs a compiled data structure that is locale independent, as represented by the multinational web page 420. The compiled data structure contains source code and locale-independent elements, but all natural languages or other locale-dependent content has been removed. The analyzer 410 stores the extracted locale-specific content in a resource bundle 422, which in turn is collected or stored in a repository 424. In one implementation, the resource bundle 422 is constructed as a structured text file (e.g., property file), although other file types may be used (e.g., database file, etc.). (Zhou, ¶ 0076.)

This section of Zhou appears to relate to processing by the “analyzer 410” in order to extract locale-specific content from the HTML code associated with an example web page that is described starting in ¶ 0064; this section does not at all appear to relate to collecting data from a user interface itself. Accordingly, claim 4 is patentable over Zhou for additional reasons than those presented with respect to claim 1.

The Office Action rejected claim 5 as follows:

With respect to claim 5, Zhou teaches the computing system of claim 1 wherein the intermediate layer is configured to provide a buffering of data flow between the user interface and the business logic, wherein the buffering of data flow enables the system to perform batch processing of a plurality of business processes (0074 and 0085; resource bundle).

Contrary to the assertion in the Office Action, Zhou does not disclose an intermediate layer that is “configured to provide a buffering of data flow between the user interface and the business logic...” To find “buffering,” the Office Action cited ¶¶ 0074 and 0085, which are reproduced below.

[0074] The locale-specific web page 404 is submitted to the internationalization compiler 402 for conversion to a locale-independent data structure. In the described implementation, the compiler 402 extracts the locale-specific elements (e.g., language text, etc.) into a resource bundle and replaces the extracted elements in the web page with function calls to the resource bundle. (Zhou, ¶ 0074.)

[0085] The locale-specific content extracted from the logon screen and stored in resource bundle 422 includes such elements as the English text strings "Please Log In", "User Name", and "Password". The resource bundle 422 is depicted as a tabular data structure with fields containing locale-specific content. A locale identifier "LocaleID" is set to a version of English named "en_US" to represent that the resource bundle contains elements for a locale that uses the version of English spoken and written in the United States, as opposed to the version of English spoken and written in the United Kingdom, or elsewhere. (Zhou, ¶ 0085.)

Like the sections cited to reject claim 4, these sections of Zhou appear to relate to processing of HTML code associated with a web page that provides a user interface, rather than buffering data that is received from the user interface itself. Put another way, this section of Zhou appears to describe creating a locale-specific “resource bundle” that can be subsequently called to create a locale-specific user interface, which apparently can receive locale-specific client requests. Accordingly, claim 5 is patentable over Zhou for additional reasons than those presented with respect to claim 1.

The Office Action rejected claim 7 as follows:

With respect to claim 7, Zhou teaches the computing system of claim 1 wherein the intermediate layer is configured to perform one or more operations on one or more objects to reduce an amount of business processes performed by the business logic (paragraph 0030), wherein the one or more operations on the one or more objects comprise collecting and formatting one or more classes of objects (abstract, 0022 and 0047).

Contrary to the assertion in the Office Action, Zhou does not disclose an intermediate layer that is “configured to perform one or more operations on one or more objects to reduce a number of business processes performed by the business logic, wherein the one or more operations on the one or more objects comprise collecting and formatting one or more classes of objects.” To reject the “collecting and formatting one or more classes of objects” aspect of claim 7, the Office Action cited the Abstract and ¶¶ 0022 and 0047, which are reproduced below.

A compilation and translation system internationalizes an application authored for one locale for use in other locales. The system automatically extracts locale-sensitive content (e.g., language, regional information, slang, cultural aspects, etc.) from the source code and other locale-independent elements (e.g., formatting data). The extracted content can then be translated for use in the other locales. During runtime, requests from different locales can be served locale-sensitive responses by retrieving the source code and dynamically populating it with the appropriate content for the target locale. (Zhou, Abstract)

[0022] The clients 102 may be implemented in a number of ways, including as personal computers (e.g., desktop, laptop, palmtop, etc.), communications devices, personal digital assistants (PDAs), entertainment devices (e.g., Web-enabled televisions, gaming consoles, etc.), other servers, and so forth. The clients 102 submit their requests using a number of different formats and protocols, depending upon the type of client and the network 104 interfacing a client and the server 106. (Zhou, ¶ 0022.)

[0047] With the presentation layer 212 partitioned from the execution environment 202, the architecture 110 supports receiving requests in one format type and returning replies in another format type. For example, a user on a browser-based client (e.g., desktop or laptop computer) may submit a request via HTTP and the reply to that request may be returned to that user's PDA or wireless communications device using WAP. Additionally, by partitioning the presentation layer 212 from the business

logic layer 204, the presentation functionality can be modified independently of the business logic to provide new or different ways to serve the content according to user preferences and client device capabilities. (Zhou, ¶ 0047.)

Nowhere do these cited portions of Zhou describe “collecting and formatting one or more classes of objects” as that phrase is used in the context of claim 7. Accordingly, claim 7 is patentable over Zhou for additional reasons than those presented with respect to claim 1.

The Office Action rejected claim 9 as follows:

With respect to claim 9, Zhou teaches The computing system of claim 1 wherein the object model controller is configured to send data requests to the intermediate layer (figure 1), wherein the data requests comprise any one of a read data request, a modify data request, and an insert data request, and wherein the object model controller further comprises an object-oriented interface (paragraph 0051).

Contrary to the assertion in the Office Action, Zhou does not disclose an object model controller that is “configured to send data requests to the intermediate layer...” To reject this claim, the Office Action pointed to FIG. 1 and paragraph 0051. Starting with FIG. 1, it is not clear what the Office is considering the object model controller and what the Office is considering the intermediate layer. No further detail has been provided, and the elements shown in FIG. 1 do not appear to be mapped to an object model controller or an intermediate layer elsewhere in the Office Action. Accordingly, to the extent that the Office persists in rejecting claim 9 based on FIG. 1, Applicants request that additional detail be provided in the next Office communication so that Applicants can appropriately respond. Turning to paragraph 0051, Applicants reproduce this paragraph below:

[0051] To aid the discussion, the operation will be described in the context of asset management, wherein the architecture 110 is configured as a server application executing on the application server system 106 for an asset management domain. Additionally, for discussion purposes, suppose a user is equipped with a portable wireless communications device (e.g., a cellular phone) having a small screen with limited display capabilities and

utilizing WAP to send/receive messages over a wireless cellular network. The user submits a request for information on a particular asset, such as the specification of a turbine engine or the availability of an electric pump, from the wireless communications device. (Zhou, ¶ 0051)

Again, it is not clear how the Office is mapping the description in ¶ 0051 to the specific elements of claim 9, but to the extent that the Office is giving any weight to the “user submit[ing] a request for information on a particular asset,” Applicants note that this paragraph appears to be an example to provide context for the description in the following paragraphs (note the introductory “[t]o aid the discussion”). Nothing in paragraph 0051 discloses an object model controller that is “configured to send data requests to the intermediate layer,” as those terms are used in Applicants’ claims, or as those terms have been mapped to Zhou elsewhere in the Office Action. Accordingly, Applicants respectfully submit that claim 9 is patentable over Zhou for additional reasons than those presented with respect to claim 1.

New Claims

New claims 24 and 25 are presented. Support for the new claims can be found throughout the specification filed on November 13, 2003, including in the original claims and at page 2, lines 15-19; page 4, lines 6-9; page 6, lines 15-18; and page 7, lines 9-10 and 18-22. Accordingly, no new matter has been added.

New claims 24 and 25 are patentable over the art of record for at least the reasons presented above with reference to one or more of claims 1, 4, 5, 7 and 9. Moreover, with respect to new claim 24, Zhou neither discloses nor suggests “buffer[ing] data that is collected from the user interface and associated with the two or more data objects,” or “provid[ing] the two or more data objects whose data has been rearranged to the business logic for batch processing.” Furthermore, with respect to new claim 25, Zhou neither discloses nor suggests “request[ing] additional data from the user interface to associate with at least one of the two or more data objects following collection of the multiple data entries and association of the multiple data entries with the two or more data objects but prior to providing the two or more data objects to the business logic for processing.”

Applicants request consideration and allowance of new claims 24 and 25.

Conclusion

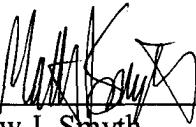
Applicants respectfully submit that pending claims 1-7, 9-12 and 15-25 are in condition for allowance and request that the Examiner allow them.

It is believed that all of the pending issues have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to this amendment.

Please charge Deposit Account No. 06-1050 in the amount of \$200 for the excess claim fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Matthew J. Smyth
Reg. No. 58,224

Fish & Richardson P.C.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696